

information virtually asked for, in the interests of truth.

First, then, as to the identity of "a man in Cardiff," who might be erroneously regarded as a concealed source of normal information. This unspecified gentleman, I now find, is willing to give his name in confidence to the editor and to the reviewer; who will thus see that he is a responsible person, and emphatically not the kind of man who would give information to mediums, or attempt to spoil an experiment. As a matter of fact, he was not aware of the experiment until it was over; he never saw or communicated with Mrs. White at all after it had been planned. He was a mere initial incident, and to bring him into the matter would be to follow a false scent.

Next concerning Damaris Walker. First, if she had not happened to be living with her sister, unoccupied at the time, and therefore with leisure to try to develop her psychical faculty, the experiment on which the case is based would not have been started. Secondly, the information she gave was not, when she gave it, known to anyone in the house; nor was it readily ascertainable by inquiry. The music-room, for example, had not been decorated and arranged, as described, since Mrs. White had got into touch with Nea Walker. Thirdly, the descriptions given by Damaris Walker were not returned upon and amended afterwards; each record was complete and done with, before it was annotated by a survivor and so verified as correct.

The reviewer duly appreciates and directs attention to the difficulty involved in selection of incidents. I have had an opportunity of seeing the whole, and am able to assert strongly that no omission has been made in order to strengthen the case. Selection was necessary solely because of comparatively irrelevant or only distantly related matter, referring to "the group" and other people. It was difficult to determine how much to include and what to cut out. Advice of experts was taken, and the book thus kept within reasonable limits; but *never* was a weak point intentionally omitted.

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The So-called Viscid Secretion in Spawning Oysters.

IN literature dealing with the Flat or European oyster, *O. edulis*, the statement is frequently made that when the eggs are spawned into the mantle cavity they are held together there *and fastened to the gills by a white viscid secretion*. There is no doubt that this statement is incorrect and that what has been described as a white viscid secretion is an extrusion of blood-cells entangled in mucus. In a fairly recent publication (*Fish. Inv.*, 3, 1923: London, 1924) I have shown that when oysters are taken out of water—and especially when transported or retained out of water some time—in hot weather, an extensive diapedesis, or 'bleeding,' occurs. Now a large proportion of white-sick oysters, even after lying on a bench some hours, in the breeding, that is, warm, season, begin to 'bleed' more or less, in relation to the temperature and time out of water; further, many oysters spawn at the instant of dredging or *after* being taken out of water, and in such cases heavier bleeding than usual is liable to occur. It is, however, possible that a certain amount of—but not necessarily extensive—bleeding does normally occur at the act of spawning.

The concurrence of bleeding at or after the spawning act has given rise to the view that the embryos are actually fastened to the gills. In the course of

recent work (*Jour. M.B.A.*, 4, 4; 1927) it was necessary to examine oysters, immediately after they were dredged, either on the foreshore or in sheds adjacent to the dredging boats. In a few cases individuals were found with eggs in a fertilised but unsegmented condition, that is, just spawned. In these critical cases there was no viscid secretion, nor was there any in these circumstances in a large percentage of cases where the embryos were white but in various stages of segmentation later than the 2-celled condition. Moreover, when a secretion of this kind is present, it generally occurs in isolated masses, and does not encompass the whole of the embryos.

The so-called viscid secretion is, therefore, a mass of blood cells entangled in mucus; it is formed when oysters are kept out of water in warm weather as a result of diapedesis. The blood cells are sloughed off the gill in mucus in variable quantities, sometimes in great numbers, and a variable number of embryos may also become entangled in the mucus, but the number of embryos so entangled is usually relatively very few. The cause of diapedesis in oysters is no doubt capable of an exact physical expression, which, however, still remains to be found.

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An Unrecorded Constituent of Commercial Ethyl Ether.

FOR anæsthetic purposes a pure diethyl ether is now generally recognised as a desideratum. An opportunity recently arose for carrying out some experiments on the bromine absorption of commercial anæsthetic ethers, a standard solution of bromine in glacial acetic acid being added, and light excluded to avoid direct substitution of the ether by bromine. The products from six manufacturers absorbed bromine to different extents, as is shown by the following figures:—A, 0.6; B, 2.5; C, 7.5; D, 11.6; E, 13.6; F, 15.9. These are the numbers of c.c. of deci-normal bromine absorbed by 100 c.c. of the different ethers in the dark in one hour, which in the absence of aldehydes give a measure of the degree of unsaturation of the ethers. On examination of the bromination products of 2250 c.c. of ether C, among other constituents which are being further examined there was identified, as a major product, $\alpha\beta$ -dibromovinylethyl ether (1 gram), which must have arisen from vinyl ethyl ether, $\text{CH}_2:\text{CH}.\text{O}.\text{CH}_2.\text{CH}_3$, b.p. $35^\circ.5$, present in the original ether. Vinyl ethyl ether was also present to a similar extent in freshly prepared ether, direct from the manufacturing still, which had never been exposed to light. It doubtless owes its origin to vinyl alcohol (acetaldehyde) functioning in the same way as ethyl alcohol in the Williamson process.

The instability of vinyl ethyl ether to acids with production of acetaldehyde is on record, but it also develops aldehyde on storage without acid and reacts towards Schiff's and Tollens' reagents as an aldehyde.

The question as to whether vinyl ethyl ether is the first product of the action of light on diethyl ether as postulated by Wieland is receiving attention. It may, however, be recorded that an old sample of solvent ether which was rich in peroxides—equivalent to 5.6 gm. of hydrogen peroxide per litre—contained a small amount of vinyl ethyl ether, as was shown by isolation of its bromine addition product.

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